EFFECTIVENESS OF YOGIC INTERVENTION IN TERMS OF PSYCHOLOGICAL AND PHYSIOLOGICAL VARIABLES OF POLICE PERSONNEL

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CERTIFICATE

I hereby declare that the short synopsis "**Effectiveness of Yogic intervention in terms of Psychological and Physiological Variables of Police Personnel**" being submitted in the partial fulfilment of the requirement for the degree of Doctor of Philosophy in Yogic Sciences under the Department of Yogic Sciences, LNIPE, Gwalior during the academic year 2021-2022.

It is a bonafide record of original work carried out under the supervision of Dr. C. P. Singh Bhati and co-supervision of Dr. Madhvi Chandra and has not been submitted in full or part to any other university or institute for a degree or diploma.

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ABSTRACT

Police personnel face immense occupational stressors due to demanding work environments, irregular schedules, and exposure to traumatic incidents, leading to psychological distress e.g., anxiety, stress, depression, aggression and physiological ailments e.g., B.P, reduced vital capacity. While yoga is increasingly recognized as a holistic intervention for stress management, empirical studies on its efficacy for police officers remain limited. This study examines the effectiveness of a 6 weeks yogic intervention, incorporating loosening practice, asanas, pranayama, meditation, and relaxation techniques on psychological and physiological variables among 60 Madhya Pradesh police personnel of age 25–40 years, randomly assigned to experimental group- n=30 and control groups- n=30. Pre- and post-intervention assessments measured stress, anxiety, depression, aggression, psychological well-being through standardised scale and vital capacity and blood pressure measured standardised equipment. It is expected that significant improvements in the experimental group will be seen across all variables: reduced stress, anxiety, depression, and aggression; enhanced psychological well-being; increased vital capacity; and stabilized blood pressure whereas no changes can be seen in the control group. These findings align with prior research underscoring yoga's role in mitigating occupational stress and improving cardiopulmonary function. The study highlights yoga's dual benefits—psychological well-being and physiological resilience e.g., improved vital capacity and respiratory efficiency—critical for high-stress professions. Limitations include uncontrolled lifestyle factors and self-report biases.

This study will advocate integrating yoga into police personnel wellness programs to enhance mental health, physical endurance, and operational performance. Future researches should explore long-term effects and standardized protocols for law enforcement agencies.

Keywords: Yoga, Police Personnel, Anxiety, Depression, Stress, Aggression, Vital Capacity, Psychological Well-being.

CONTENTS

1. Introduction

1.1 Introduction of the Topic

1.2 Statement of the Problem

1.3 Objective of the Study

1.4 Limitations

1.5 Delimitations

1.6 Hypothesis

1.7 Significance of the Study

2. Literature Review

3. Research Methodology

3.1 Selection of the subject

3.2 Selection of the variable

3.3 Research Design

3.4 Collection of Data

3.5 Statistical Techniques

3.6 Expected Outcome of the Research

4. References

CHAPTER – I

INTRODUCTION

Being a police officer is a difficult, stressful, and complex job. Police officers must uphold public safety, enforce law and order, and respond to a variety of emergencies while working in an environment of unpredictability, danger, and public scrutiny. Intense workloads, erratic schedules, frequent exposure to potentially traumatic events, and limited opportunity for rest and personal time are common aspects of their professional lives (**Edwards et al.,2021**). As a result, police officers frequently face a wide range of work-related stressors that can significantly impair their mental and physical well-being.

Long and irregular work hours, insufficient remuneration, inadequate rest, substandard living conditions, and heightened public expectations and criticism are among the most frequent issues encountered by police personnel (**Syed et al., 2020**). Many officers are compelled to spend prolonged periods away from their families, often resulting in emotional detachment, marital conflict, and strained relationships. These personal difficulties commonly spill over into the workplace, manifesting as irritability, diminished patience, and at times, inappropriate or aggressive behavior toward colleagues and the public **(Martinez-Corts et al.,2015).** It is not uncommon to witness a breakdown in interpersonal relations within the force, ultimately leading to a toxic and demotivating work environment.

Scientific research has consistently shown that unmanaged occupational stress contributes to a wide range of psychological disorders, including depression, anxiety, anger, emotional exhaustion, and burnout. Physical manifestations include disrupted sleep, irregular appetite, psychomotor agitation or retardation, fatigue, and a prevailing sense of worthlessness

(Tennant, 2001). Such outcomes not only compromise the health and effectiveness of police personnel but also erode the credibility and functionality of law enforcement institutions.

The psychological effects of persistent negative emotions—such as anger, hostility, and aggression—have been well documented. Uncontrolled and chronic anger adversely impacts both emotional regulation and physical health. Hostility and aggression are strongly associated with an increased risk of hypertension, cardiovascular disease, and immune dysfunction **(Tsujimoto et al., 2024).** These health risks are particularly pronounced in high-responsibility, low-control occupations like policing, where exposure to social conflict and violence is routine.

In response to these challenges, yoga has gained increasing recognition as a holistic and evidence-based strategy for stress management and overall well-being **(Riley & Park., 2015).** Unlike conventional physical exercise, yoga is an integrated system that combines physical postures (asanas), breath control (pranayama), meditation (dhyana), and ethical disciplines aimed at harmonizing the body, mind, and spirit. Rooted in ancient Indian wisdom, yoga fosters self-regulation, emotional resilience, and enhanced physical health **(Gust & Bryan., 2024).**

Importantly, yoga practice has also been associated with physiological improvements relevant to physically demanding professions. One such benefit is the increase in vital capacity—the maximum amount of air a person can expel from the lungs after a maximum inhalation **(Csala et al., 2021).** Improved vital capacity leads to enhanced respiratory efficiency, greater endurance, and better oxygenation of the body, all of which are crucial for the demanding physical tasks encountered by police personnel. Studies have shown that regular practice of pranayama and yogic breathing techniques improves pulmonary function, reduces respiratory rate, and enhances overall cardiorespiratory fitness, making it particularly beneficial for law

enforcement officers who must maintain a high level of physical readiness **(Joshi et al., 1992; Madanmohan et al., 2003).**

Several scholars have underscored the role of yoga in managing occupational stress. Ananda Balayogi Bhavanani (2007) emphasized yoga's efficacy in enhancing psycho-physiological functioning and relieving stress. Lt. Col. D. R. Vaze (2007) described the yogic approach to stress management as unique, noting that it "slows down the body, mind, and intellect and increases awareness of internal changes." Such self-awareness helps individuals to better recognize and regulate their stress responses.

Additionally, U. S. Ray (2007), a research officer at the Defence Institute of Physiology and Allied Sciences (DIPAS), New Delhi, has affirmed the application of yoga in high-stress professions, including the armed forces and police departments. He emphasized yoga's value in preserving both psychological balance and physiological stability in personnel facing physically and mentally demanding roles.

Although the benefits of yoga are increasingly acknowledged, there remains a need for targeted, empirical research focusing specifically on its effects among police officers. Given the critical importance of psychological resilience and physical endurance in law enforcement, exploring both preventive and therapeutic interventions is essential. Therefore, the present study seeks to evaluate how yoga can positively impact the mental and physical health of police personnel. By assessing the outcomes of regular yoga practice—including stress reduction, emotional regulation, and improvements in physiological indicators such as vital capacity—this research aims to inform the development of comprehensive wellness programs for law enforcement professionals.

STATEMENT OF THE PROBLEM

The statement of the problem is stated as "**Effectiveness of Yogic Intervention in terms of Psychological and Physiological variables of Police Personnel"**.

OBJECTIVES OF THE STUDY

1. To assess the effect of selected Yogic Intervention on Anxiety level of Police personnel.
2. To assess the effect of selected Yogic Intervention on Depression level of Police personnel.
3. To assess the effect of selected Yogic Intervention on Stress level of Police personnel.
4. To assess the effect of selected Yogic Intervention on Aggression level of Police personnel.
5. To assess the effect of selected Yogic Intervention on Psychological Well-Being level of Police Personnel
6. To assess the effect of selected Yogic Intervention on Vital Capacity of Police personnel.
7. To assess the effect of selected Yogic Intervention on Blood Pressure of Police personnel.

DELIMITATIONS

1. 60 police personnel will be selected as the subject from M.P police.
2. The selected subject will be divided into two groups,

Experimental group (n=30)

Control group (n=30)

3. The age of the subjects ranged from 25 to 40.
4. The duration of training will be restricted for the period of 6 weeks.
5. Each training session will be held for 60 minutes.
6. This Study will be delimited to Constable, Head constable, Sub Inspector and Inspector only.

LIMITATIONS

1. Food habits, rest period and life style could not be controlled.
2. Mood, Interest and answer given by subjects cannot be controlled, hence will be treated as limitation of the study.
3. Any biasness from the respondent will be treated as limitation of the study.
4. The previous experience of the subjects regarding the test was considered as limitation of the study.

HYPOTHESES

1. There is a significant positive effect of yogic intervention on Anxiety level of subjects.
2. There is a significant positive effect of yogic intervention on Depression level of subjects.
3. There is a significant positive effect of yogic intervention on Stress level of subjects.
4. There is a significant positive effect of yogic intervention on Aggression level of subjects.
5. There is a significant positive effect of yogic intervention on Psychological Well-being level of subjects.
6. There is a significant positive effect of yogic intervention on Vital Capacity of subjects.
7. There is a significant positive effect of yogic intervention on Blood Pressure of subjects.

SIGNIFICANCE OF THE STUDY

1. The present study may help the police personnel to reduce their Anxiety level practicing selected yogic interventions.
2. The present study may help the police personnel to reduce their Depression level practicing selected yogic interventions.
3. The present study may help the police personnel to reduce their Stress level practicing selected yogic intervention.
4. The present study may help the police personnel to reduce their Aggression level practicing selected yogic intervention.
5. The present study may help the police personnel to reduce their Psychological Well-being level practicing selected yogic intervention.
6. The present study may help the police personnel to improve their Vital Capacity level by practicing selected yogic intervention.
7. The present study may help the police personnel to control the Blood Pressure by practicing selected yogic intervention.

CHAPTER-II
LITERATURE REVIEW

The research might be given useful insights and a sense of direction via the study and examination of the relevant literature. It is generally agreed upon that the relevant body of literature plays an important role in the subject of study. It serves as the driving force behind any research endeavour and offers wide-ranging and in-depth insights about the work that has been published. An effort has been made throughout this chapter to expound on the concepts presented by a number of different researchers.

RESEARCH ON RELATIONSHIP BETWEEN YOGIC PRACTICES ON POLICE PERSONNEL

In a pilot study conducted by (Jeter et al., 2013), the researchers aimed to assess the impact of Kripalu yoga on perceived stress, mood, and mindfulness among individuals undergoing police academy training. A total of forty-two individuals were enrolled in a six-class yoga intervention. The participants were administered the Profile of Mood States-Short Form, Perceived Stress Scale, and the Five Facet Mindfulness Questionnaire before and after participating in the yoga program. Additionally, they were asked to complete an exit survey. The results of the paired samples t-tests indicated statistically significant improvements in reported stress and mood following the intervention. Specifically, there were reductions in feelings of tension and weariness, and a tendency towards decreased anger. No significant alterations in awareness were observed. The findings of the exit survey revealed that certain individuals reported seeing benefits from engaging in yoga. This initial investigation posits that the practice of yoga potentially holds benefits in terms of alleviating stress, tension, and exhaustion among individuals undergoing training in police academies. Further longitudinal

randomized controlled studies are required in order to assess the complete efficacy of including it as a permanent element inside police academy training.

In a study conducted by (Kulshrestha et al., 2023), the objective was to investigate the impact of a Yoga Training Program (YTP) on the stress levels of 28 police men from PAC, Etahwa, U.P., India. The program spanned a duration of five consecutive days, with a single session scheduled each day during the early hours, lasting for a duration of one hour. The program encompassed a comprehensive yoga practice that incorporated specific Asanas, Pranayamas, Prayer (Omkar & Gayatri Mantra Chanting), and a relaxation exercise (Savasana). The study involved a sample of 30 police personnel, encompassing ranks ranging from jawan to sub inspector. The participants were administered the usual self-reported Stress test both prior to and following the completion of the training regimen. The findings of the study indicate that there was a statistically significant decrease in participants' stress levels. The results indicate that yoga practices, along with yoga-based interventions, have positive benefits on the management of developing stress and associated risks among police employees.

The study conducted by Khodaskar and Khodaskar (2015) examined the effectiveness of yogic practices in helping incarcerated individuals gain control over anxiety, anger, and impulsivity. A convenient sample of 90 male prisoners from Amravati district central jail in Maharashtra, India, who had been charged with murder under Indian Penal Code 302 and had served a minimum of three years in prison, was selected. Two groups, consisting of 45 people each, were recruited from the experimental and control groups. The participants in both groups were between the age range of 25 to 54 years. The measurement of anxiety, anger, and impulsivity was conducted by the utilization of standardized scales tests. Several notable psychological advantages were observed, such as enhanced emotional regulation, improved management of anger and anxiety, and a more constructive approach to navigating the prison

environment. This study has provided evidence supporting the possible validity of yoga psychology as a significant determinant in the reduction of anxiety, anger, and impulse control behaviors.

Schell, Allolio, and Schonake (1994) conducted a study investigating the physiological and psychological effects of Hatha-Yoga exercise in women who were in good health. Heart rate, blood pressure, cortisol, prolactin, growth hormone, and psychological markers were assessed in a group of young female volunteers who practiced yoga, both before and after the study period. A control group was also included for comparison purposes. There were no statistically significant differences observed in terms of endocrine markers and blood pressure among the groups. The yoga group had a significant decrease in heart rate, particularly throughout the yoga session.The results of the personality questionnaire revealed that the yoga group had higher levels of life satisfaction and significantly lower levels of excitability, aggressiveness, openness, emotionality, and somatic complaints. At the conclusion of the trial, notable discrepancies in stress management and emotional state were observed.

K. Yoshihara and colleagues (2011). A study conducted in Japan examined the disparities in mental moods and urine stress-related biochemical indicators among women who have engaged in long-term yoga practice and those who have not participated in such activities. The researchers discovered that individuals who have been practicing for an extended period of time exhibit lower levels of mental disturbance, tension, anxiety, anger-hostility, and weariness as measured by the profile of mood test, in comparison to persons with no prior experience. Notably, there were no significant alterations observed in stress-related indicators measured in urine samples. This study represents a pioneering investigation that demonstrates the enhanced mental health observed in long-term practitioners of yoga in comparison to individuals who do not engage in yoga practice, despite being in good health.

According to a study conducted by Kaur and Kumar (2016), meditation has been found to improve both physiological and psychological functioning. The implementation of some interventions has the potential to improve the mental well-being of incarcerated individuals and reduce impulsive behavior. Prisoners worldwide have challenging and demanding environments that perpetually elevate stheir stress levels. The present investigation centers on incarcerated women and the impact of meditation.The research findings have provided evidence supporting the notion that the practice of yoga may have positive effects on mood enhancement, stress reduction, and the management of anti-social behavior in humans, as opposed to persons who do not engage in meditation. This study further investigates the positive and encouraging transformations observed in the health of female inmates in Delhi who engaged in meditation, yoga, and other stress-reducing activities.

In a study conducted by Telles et al. (2014), the researchers examined the immediate impact of a single 10-minute session of anuloma-viloma pranayama, a breathing method known as alternate nostril breathing, on blood pressure (BP) levels during the Purdue pegboard task. The study included a sample of 90 persons diagnosed with essential hypertension who possessed prior experience with yogic breathing techniques. The researchers observed notable reductions in systolic blood pressure (SBP) and breath awareness within each group following the practice of pranayama. Additionally, there were significant decreases in diastolic blood pressure (DBP) within each group after pranayama, and a significant difference in SBP between the groups. It is important to note that all reported p-values were greater than 0.05, and no confidence intervals were provided. The researchers discovered that the practice of pranayama had the potential to reduce blood pressure levels in patients with hypertension while engaged in tasks that require focused attention.

CHAPTER -III

RESEARCH METHODOLOGY

RESEARCH DESIGN

In the present investigation randomized Pre- Post control group design will be used.

SELECTION OF SUBJECTS

Subjects will be selected by simple random sampling and then will be assigned to control and experimental group randomly.

SELECTION OF VARIABLES

After going through deep review literature analysis, the researcher has shortlisted following dependent and independent variables.

Dependent Variables

Psychological:

1. Anxiety
2. Depression
3. Stress
4. Aggression
5. Psychological Well-being Scale

Physiological:

1. Vital Capacity
2. Blood Pressure

Independent variables: Yogic Intervention

1. Opening Prayer
2. Loosening Practice
3. Asana

4. Relaxation
5. Pranayama
6. Meditation
7. Closing Prayer (Shanti Path)

COLLECTION OF DATA

- The collection of data is completely depended on the performance of all these specific yogic intervention by experimental group for 6 weeks.
- Sample will be tested twice (Pre-Post) with an interval of minimum 6 weeks of training.
- There will be two groups:

  Experimental group (30 Sample)

  Control group (30 sample)

STATISTICAL TECHNIQUES

ANCOVA -test will be used to compare the effect of selected yogic intervention on Anxiety, Depression, Stress, Aggression, Psychological well-being, Vital capacity and Blood Pressure before and after the treatment. Level of significance will be set at 0.05.

Descriptive statistics will be used to characterize the level of Psychological and Physiological variables in police personnel.

EXPECTED OUTCOMES OF THE RESEARCH

This study anticipates that the 6-week yogic intervention will significantly reduce Stress, Anxiety, Depression and Aggression levels among police personnel while enhancing their Psychological Well-being, as evidenced by standardized scales. Physiologically, the intervention is expected to improve psychological and physiological health through Yogic practices. These outcomes align with prior research demonstrating yoga's efficacy in stress modulation, respiratory improvement and improve blood pressure control. Suggesting that regular practice can serve as a cost-effective, holistic strategy to enhance mental resilience and physical health in high-stress policing environments. The findings may advocate for institutional integration of yoga into police wellness programs to mitigate occupational health risks and improve overall performance.

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